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None

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G5R

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(54) Magnetic head device

(57) A magnetic head device for use with a disc cartridge has a recording/reproducing core provided at its mid portion with a recording/reproducing gap, and a pair of eraser cores (2,2) disposed at opposing sides of the recording/reproducing core and having bottom faces (7) contacting end portions (6a,6a) of an erasing yoke (6) on which an exciting coil (5) is wound. Both end portions (6a,6a) of the eraser yoke (6) are disposed on the rear faces (7) of the eraser cores (2,2) so that the eraser cores (2,2) are resiliently pressed and held in position by the eraser yoke (6). Positional offset of the eraser cores (2,2) from the eraser yoke (6) is prevented because the eraser cores (2,2) are held by the eraser yoke (6) through the resilient contact therebetween.

Fig. 5

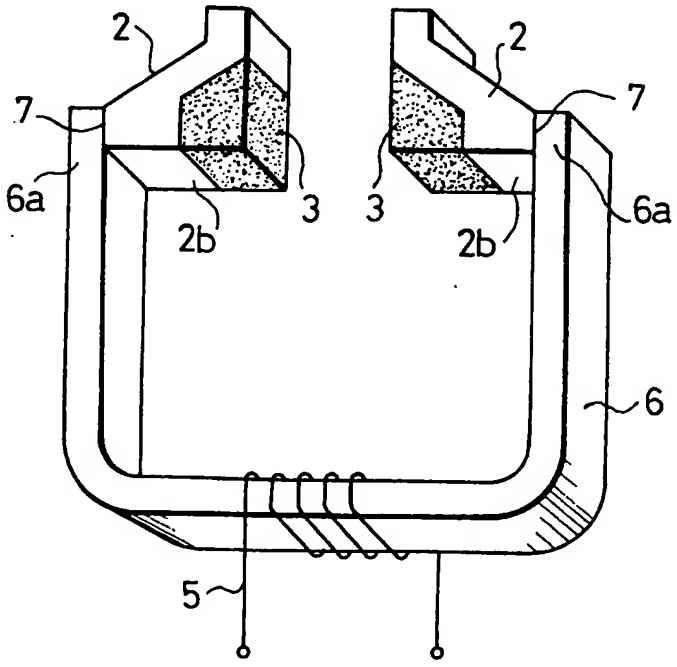

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Fig.1

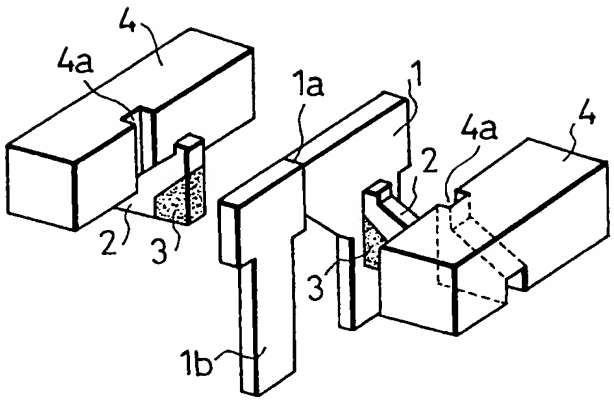

Fig.2

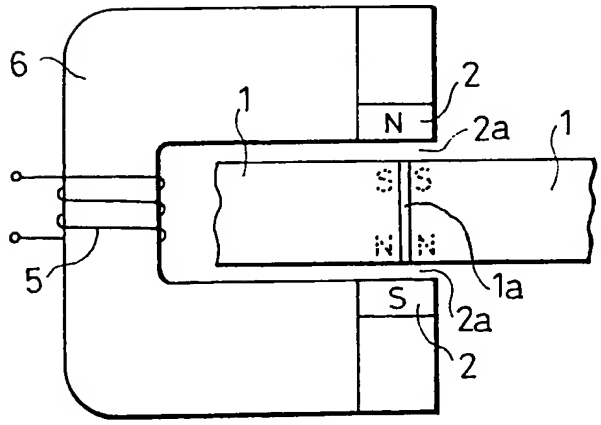

Fig.3

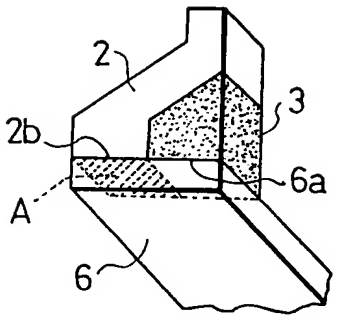

Fig.4

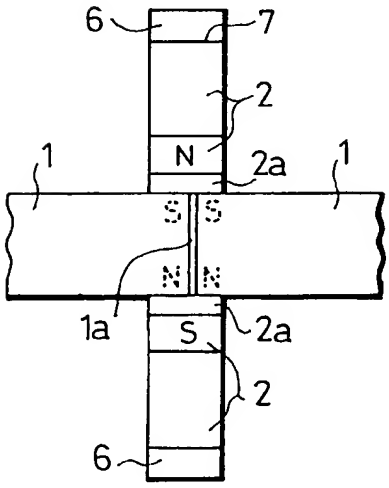

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Fig.5

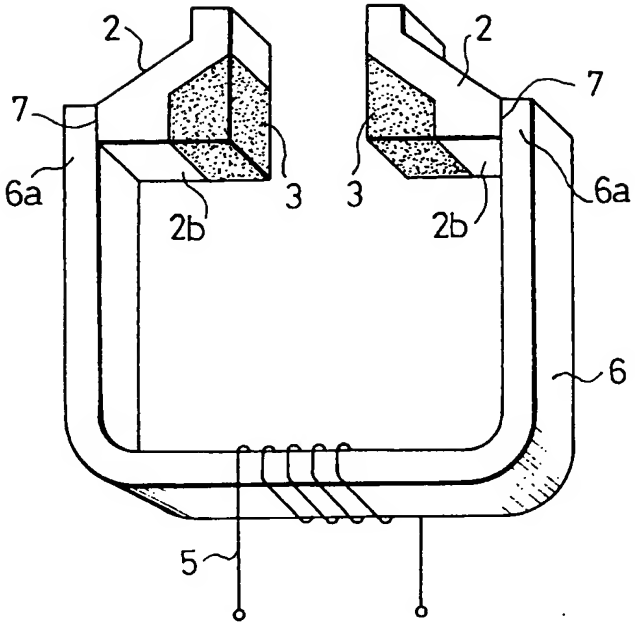
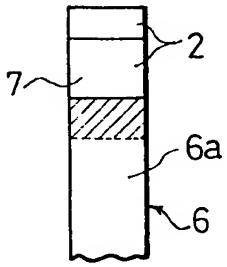


Fig.6



SPECIFICATION

Magnetic head device

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a magnetic head device for use in recording and reproducing signals into and from a medium such as a magnetic disk cartridge. More particularly, the invention is concerned with a magnetic head of the straddle type.

Description of the Prior Art

Various types of magnetic head devices of the kind mentioned above are known, among with straddle-type magnetic head device and tunnel-type magnetic head device are well known. The straddle-type magnetic head device, which affords a large width of I-shaped recording/reproducing core, can provide a higher magnetic efficiency and, hence, a higher power than the tunnel-type magnetic head device.

A typical conventional magnetic head device of the straddle type will be explained hereinunder with specific reference to Figs. 1, 2 and 3. In these Figures, a reference numeral 1 designates a recording/reproducing core made of a magnetic material such as ferrite and provided with a recording/reproducing gap 1*a* and a leg 1*b*.

Eraser cores 2 are disposed at respective sides of the recording/reproducing core 1. Each of the eraser cores 2 is provided with a portion 3 made of a non-magnetic material such as a glass. Each eraser core 2 is received in a slot 4*a* formed in a core holder 4 made of a non-magnetic material such as a ceramic. The arrangement is such that a pair of core holders 4,4, receiving respective eraser cores 2,2, are disposed oppositely at respective sides of the recording/reproducing core 1.

Figs. 2 and 3 are a schematic plan view of an essential part of the magnetic head device incorporating the above-mentioned constituents and a perspective view of the same as viewed from the lower side thereof, respectively.

In assembling, the eraser cores 2,2 are positioned with respect to the recording/reproducing core 1 such that predetermined erasing gaps 2*a* are formed between these cores 2,2, and the recording/reproducing core 2, and the cores are bonded to each other by a bond formed of a fusible material such as glass.

The straddle-type magnetic head device makes use of magnetic recording/reproducing cores 1,1 as a part of the erasing magnetic circuit. In the conventional magnetic head device of the kind described, the recording/reproducing gap 1*a* is disposed so as to be in line with the centers of the eraser cores 2,2, as can be seen in Fig. 2.

More specifically, in this conventional magnetic head device, the eraser heads 2,2 are merely placed on an eraser yoke 6 having an exciting coil 5 wound thereon, such that the bottom faces 2*b*,*b* of the eraser cores 2,2 simply rest on respective end portions 6*a*,6*a* of the eraser yoke 6 as can be seem from Fig. 3.

Consequently, it is often experienced that the eraser yoke 6 is offset from the eraser cores 2,2 during assembling of the magnetic head device. Such an offset undesirably decreases the cross-sectional area A of the passageway for magnetic flux shown by the hatching in Fig. 3, which in turn increases the magnetic resistance to impair the erasing characteristics.

SUMMARY OF THE INVENTION

Accordingly, an object of the invention is to provide a magnetic head device which is improved to prevent offset of the eraser yoke from the eraser cores to ensure high erasing characteristics, thereby overcoming the above-described problems of the prior art.

To this end, according to the invention, there is provided a magnetic head device having a recording/reproducing core provided at its mid portion with a recording/reproducing gap, and a pair of eraser cores disposed at respective sides of the recording/reproducing core and having bottom faces contacting both end portions of an erasing yoke on which an exciting coil is wound, wherein the improvement comprises that both end portions of the eraser yokes are disposed on the rear faces of the eraser cores so that the eraser cores are resiliently pressed and held by the eraser yoke.

The above and other objects, features and advantages of the invention will become clear from the following description of the preferred embodiment when the same is read in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is an exploded perspective view of a conventional magnetic head device;

Figure 2 is a schematic plan view of an essential part of the magnetic head device shown in Fig. 1;

Figure 3 is a perspective view of eraser cores as viewed from the lower side thereof;

Figure 4 is a schematic plan view similar to Fig. 2, showing an essential part of a magnetic head device in accordance with the invention;

Figure 5 is a perspective view of a magnetic head device shown in Fig. 4 as viewed from a lateral side thereof; and

Figure 6 is a rear elevational view of eraser cores and an eraser yoke in accordance with the invention.

DESCRIPTION OF THE PREFERRED EMBODI-

MENT

An embodiment of the invention will be described hereinunder with reference to Figs. 4 to 6.

Referring to these Figures, reference numerals 1 to 6 are used to denote the same parts as those incorporated in the conventional magnetic head device described before. The rear surfaces of the eraser cores 2,2 are denoted by a reference numeral 7.

The magnetic head device of the present invention is distinguished from the conventional magnetic device by the construction for supporting the eraser cores 2,2.

As stated before in connection with Figs. 2 and 3, the cores 2,2 of the conventional magnetic head device are placed on both end portions 6*a*,6*a* of the eraser yokes 6,6 so that the lower faces 2*b*,2*b* merely rest on the end portions 6*a*,6*a* of the eraser yoke 6. In contrast to the above, according to the present invention, the eraser yoke 6 is disposed such that the ends 6*a*,6*a* of the eraser yoke 6 abut the rear faces 7,7 of the eraser cores 2,2, as shown in Figs. 4 to 6.

More specifically, as shown in Fig. 5, the eraser yoke 6 which is bent substantially in a U-like form is arranged such that the ends 6*a* of the eraser yoke 6 resiliently contact the rear faces 7,7 of the eraser cores 2,2 to press the cores inwardly, whereby the eraser cores 2,2 are held by the resiliency of the eraser yoke 6.

According to the invention, by resiliently pressing and holding the eraser cores 2,2 by the eraser yoke 6, it is possible to prevent offset of the positions of the eraser cores 2,2. Namely, any offset of the positions of the eraser cores 2,2, which may happen to occur during assembling, can be corrected by adjusting the positions of the rear faces 7,7 of the eraser cores 2,2 and the end portions 6*a*,6*a* of the eraser yoke 6.

It is to be noted also that, since the rear faces 7,7 of the eraser cores are wholly constituted by a magnetic material, and since the offset of the positions of the eraser cores 2,2 is suppressed, the change in the cross-sectional area B of the path of the magnetic flux, shown by the hatching in Fig. 6, is avoided so that the magnetic resistance is stabilized to improve the erasing characteristics.

In the magnetic head device of the invention, the eraser yoke 6 serves not only as a part of the magnetic circuit but also a member for supporting the eraser cores 2,2. Consequently, it becomes unnecessary to prepare and use specific members for fixing the eraser cores 2,2 against positional offset, and the magnetic head device can be assembled with high accuracy at a reduced cost.

In the described embodiment of the invention, the eraser yoke is disposed such that both leg portions of the eraser yoke 6 extend vertically, as shown in Fig. 5. This arrangement, however, is not exclusive and the invention can be applied equally to the case where the eraser yoke 6 is disposed such that its legs extend horizontally so as to support the eraser cores 2,2 from a lateral side.

As has been described, the invention provides a remarkable improvement in the erasing performance due to elimination of positional offset between the eraser cores and the eraser yoke, owing to such an arrangement that the eraser yoke is disposed on the rear faces of the eraser cores so as to resiliently press and hold the eraser cores.

CLAIMS

1. In a magnetic head device having a recording/reproducing core provided at its mid portion with a recording/reproducing gap, and a pair of eraser cores disposed at respective sides of the recording/reproducing core and having faces contacting respective end portions of an erasing yoke having an exciting coil therearound wound, wherein the improvement comprises the end portions of said eraser yokes are disposed to resiliently press the rear faces of said eraser cores so that said eraser cores are held in position by the resilience of said eraser yoke.

2. A magnetic head device substantially as hereinbefore described, with reference to Figs. 4 to 6 of the accompanying drawings.

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